



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Lee, et al.

Attorney Docket No.: 34-002

Serial No.: 10/780,188

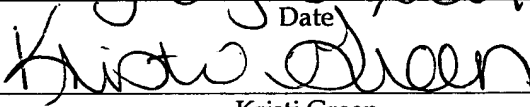
Art Unit:

Filing Date: February 17, 2004

Examiner:

For: **SWITCHING POWER AMPLIFIER USING A FREQUENCY  
TRANSLATING DELTA SIGMA MODULATOR**

Date: July 29, 2004

Certificate of Mailing	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on	
July 29, 2004	Date
	
Kristi Green	

**INFORMATION DISCLOSURE STATEMENT**

Commissioner For Patents  
P O Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

I. **COPIES**

- a. ☒ A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b. ☐ Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number

U.S. Filing Date

II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a. ☒ Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required).
- b. ☐ A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:
- c. ☐ The following additional information is provided for the Examiner's consideration:

III. ☐ CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

Serial No.

Filing Date

Art Unit

**FEES**

IV. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(b): (check one box)

- a. ☐ within three months of the filing date of a national application (37 C.F.R. §1.97(b)(1)). No fee or statement is required.
- b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. §1.97(b)(2)). No fee or statement is required.
- c. ☒ before the mailing date of a first Office Action on the merits (37 C.F.R. §1.97(b)(3)). No fee or statement is required.
- d. ☐ In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. §1.97(c) and see the statement under 37 C.F.R. §1.97(e) provided below, or if no statement has been made, charge deposit account **50-1147** the fee set forth in 37 C.F.R. §1.17(p).

V. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(c): (check one box)  
before the mailing date of either a Final Office Action under 37 C.F.R. §1.113 (See 37 C.F.R. §1.97(c)), or a Notice of Allowance under 37 C.F.R. §1.311 (See 37 C.F.R. §1.97(c)).

- a. ☐ No statement; therefore, charge deposit account **50-1147** the fee set forth in 37 C.F.R. §1.17(p).
- b. ☐ See the statement below. No fee is required.

VI. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(d):

on or before payment of the issue fee and is accompanied by the following:

- 1) a statement under 37 C.F.R. §1.97(e) as provided below;
- 2) Applicant(s) hereby a petition for consideration of this information disclosure statement; and
- 3) charge deposit account **50-1147** the petition fee set forth in §1.17(i).

VII. Statement under 37 C.F.R. §1.97(e) (check only one box, if applicable)  
The undersigned hereby states that

- a. ☐ each item of information contained in the IDS was cited in a communication from a foreign Patent Office is a counterpart foreign application not more than three months prior to the filing of IDS; or
- b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and to knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement, or
- c. ☐ some of the items of information contained in the IDS were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was

known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.


VIII. PAYMENT OF FEES

- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the above-identified fee(s).
- ☐ Please charge Deposit Account No. **50-1147** in the amount of \$\_\_\_\_\_ for the above-indicated fee(s).
- ☒ If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit Account **50-1147**.

The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which anticipates the invention or which would render the same obvious, either singly or in a combination, to a person or ordinary skill in the art.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. **50-1147**.

Respectfully submitted,

  
Charles W. Bethards  
Reg. No. 36,453

Posz & Bethards, PLC  
11250 Roger Bacon Drive  
Suite 10  
Reston, VA 20190  
Phone (703) 707-9110  
Fax (703) 707-9112  
Customer No. 23400



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/780,188
Filing Date	Feb. 17, 2004
First Named Inventor	Lee, et al.
Art Unit	
Examiner Name	
Attorney Docket Number	34-002

Sheet 1 of 2

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US- 5,974,089	10-26-1999	Tripathi, et al.	
	AB	US- 6,577,189	06-10-2003	Jayaraman, et al.	
	AC	US- 6,191,653 B1	02-20-2001	Camp, Jr., et al.	
	AD	US- 6,373,334 B1	04-16-2002	Melanson	
	AE	US- 5,777,512	07-07-1998	Tripathi, et al.	
	AF	US- 4,843,339	06-27-1989	Burt, et al.	
	AG	US- 5,352,986	10-04-1994	Modgil, et al.	
	AO	US- 6,630,899	10-07-2003	Jayaraman	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	10/780,188
		Filing Date	Feb. 17, 2004
		First Named Inventor	Lee, et al.
		Art Unit	
		Examiner Name	
Sheet 2	of 2	Attorney Docket Number	34-002

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AH	J. KEYZER, et al., "Digital Generation of RF Signals for Wireless Communications With Band-Pass Delta-Sigma Modulation", 2001 IEEE MTT-S Digest pages 2127-2130	
	AI	R. SCHREIER and M. SNELGROVE, "Bandpass Sigma-Delta Modulation", Electronic Letters, November 9, 1989, Vol. 25. No. 23, pages 1560-1561	
	AJ	H. BALAN, M. DECLERCQ, "12v Class-D Amplifier in 5V CMOS Technology", 1995 IEEE Cusom Integrated Circuits Conference, pgs. 559-562	
	AK	ENRICO DALLAGO and GABRIELE SASSONE, "Single-Cycle Quasi-Resonant Converters as Sigma-Delta Audio Power Stages", 1996 IEEE, pages 645-650	
	AL	M.A.E. ANDERSEN, "A New Application for Zero-Current-Switched Full-Wave Resonant Converters", 1993 The European Power Electronics Association, pgs. 83-86	
	AM	ION E. OPRIS and GREGORY T. A. KOVACS, "A Video bandwidth Analog Median Circuit", IEEE 1995 Custom Integrated Circuits Conference pgs. 555-558	
	AN	GLEN LUCKJIFF, et al., "Interpolative Sigma Delta Modulators for High Frequency Power Electronic Applications", 1995 IEEE, pages 444-449	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.